

Application No. 10/528,954
Paper Dated: February 21, 2008
In Reply to USPTO Correspondence of November 23, 2007
Attorney Docket No. 4587-048041

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/528,954 Confirmation No. 9156
Applicants : MIRKO LEHMANN et al.
Filed : March 22, 2005
Title : **DEVICE FOR THE DETECTION OF AT LEAST
ONE LIGAND CONTAINED IN A SAMPLE
THAT IS TO BE ANALYZED**
Group Art Unit : 1797
Examiner : Lore Janet Ramillano
Customer No. : 28289

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

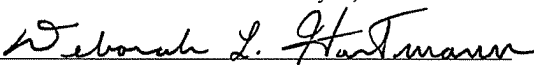
Sir:

For the reasons set forth herein, Applicants request that the final rejection of claims 17-36 for anticipation or obviousness from the various teachings of U.S. Patent documents 5,439,647 to Saini; 2002/0135780 to Budach et al.; and 6,465,241 to Haronian et al. be withdrawn and claims 17-36 allowed.

I hereby certify that this correspondence is being electronically submitted to the United States Patent and Trademark Office on February 21, 2008.

02/21/2008

Date



Signature

Deborah L. Hartmann

Typed Name of Person Signing Certificate

Claims 17, 19, 22, 25-27 and 35 stand rejected under 35 U.S.C. § 102(b) for anticipation by U.S. Patent document 5,439,647 to Saini; claims 18, 20, 21, 23, 24, 28 and 31-34 stand rejected under 35 U.S.C. § 103(a) for obviousness from the teachings of the Saini document in view of U.S. Patent document 2002/0135780 to Budach et al.; and claims 28-30 and 36 stand rejected under 35 U.S.C. § 103(a) for obviousness from the teachings of the Saini document in view of U.S. Patent document 6,465,241 to Haronian et al.

In the detailed rejection of claims 17, 19, 22, 25-27 and 35, the Examiner specifically refers to Figs. 1A, 1C, 2A and 3A-3C of the Saini document.

Figs. 1A, 1C and 2A of the Saini document disclose waveguides, each of which includes a reference arm 22 (which does not have any associated sensing chemistry) and a sensing arm 24, 25 and 27, respectively, which has sensing chemistry (which can output, among other things, fluorescent light) associated therewith, e.g., sensing arm 25 in Fig. 1C is formed of sensing chemistry. However, there is no disclosure, teaching or suggestion in the Saini document of each instance of reference arm 22 in Figs. 1A, 1C and 2A having any sensing chemistry associated therewith. Thus, light passing through each reference arm 22 in Figs. 1A, 1C and 2A of the Saini document that strikes the corresponding detector 16 has not been influenced by any sensing chemistry. It is only the light that passes through each sensing arm 24, 25 and 27 that is influenced by the sensing chemistry associated therewith, which influence can be detected by the corresponding detector 18. Thus, the embodiments shown in each of Figs. 1A, 1C and 2A of the Saini document have a single light path along which a single light detector is disposed for detecting light that has been influenced by sensing chemistry, not the optical waveguide of claim 17 which has a single light path along which multiple detection fields and multiple radiation receivers are disposed, wherein each detection field has one radiation receiver associated therewith and each radiation receiver is operative for detecting only the luminescence radiation sent out by the detection field associated therewith.

Figs. 3A-3C of the Saini document disclose a sensor 58 comprised of a reference channel 66 (that does not have sensing chemistry associated therewith), including a light source 68, and three different waveguides 60, 62 and 64 (defining three separate light paths), having different sensing chemistry 30a, 30b and 30c, and including detectors 70, 72 and 74, respectively, associated therewith. Thus, each waveguide that includes sensing chemistry in Figs. 3A-3C of the Saini document has only one detector associated therewith.

Thus, the embodiment shown in Figs. 3A-3C of the Saini document does not disclose the optical waveguide of claim 17 which has a single light path along which multiple detection fields and multiple radiation receivers are disposed, wherein each detection field has one radiation receiver associated therewith and each radiation receiver is operative for detecting only the luminescence radiation sent out by the detection field associated therewith.

In the Response to Arguments section of the November 23, 2007 Office Action, the Examiner alleges:

. . . Saini's sensing arm 25 (fig. 1C) reads on applicant's recited "multiple detection fields" and "each detection field including at least one receptor" since Saini's sensing arm 25 is made of sensing chemistry, which includes multiple detection fields of bonding between receptors and ligands. Saini's sensing chemistry further reads on applicant's claimed multiple detection fields because applicant recited in claim 17, that each detection field includes at least one receptor. Saini's sensing chemistry, thus, comprises multiple detection fields because it comprises multiple receptors on the sensing chemistry (underline added).

Initially, it is respectfully pointed out that the phrase "at least" was deleted from claim 17 in the June 4, 2007 Amendment. Accordingly, the Examiner's above-quoted allegation from the Response to Arguments section of the November 23, 2007 Office Action is factually incorrect in this regard.

Moreover, column 2, lines 44-50 of the Saini document disclose that the entirety of sensing arm 25 is made of sensing chemistry. To this end, the cross-hatching used to depict sensing arm 25 in Fig. 1C of the Saini document denotes, in a manner consistent with the other Figs. in the Saini document, where sensing chemistry resides. This cross-hatching, however, does not denote multiple detection fields as alleged by the Examiner. Rather, Fig. 1C of the Saini document discloses one elongated detection field 25 having one detector 18 associated therewith, not the optical waveguide of claim 17 which has a single light path along which multiple detection fields and multiple radiation receivers are disposed, wherein each detection field has one radiation receiver associated therewith and each radiation receiver is operative for detecting only the luminescence radiation sent out by the detection field associated therewith.

The "sensing chemistry" described in the Saini document clearly consists of a single area which may not be divided into several detection fields. To this end, the Saini

document clearly discloses that the “sensing chemistry” is a single field - not a plurality of divided fields as alleged by the Examiner in the Office Action.

Notwithstanding, assuming *arguendo* the Examiner’s above-quoted allegation is correct, the subject matter of the application would still not be anticipated by the Saini document. Specifically, the Saini document teaches that each sensing chemistry is allocated to only one optical detector. So, if the sensing chemistry has several detection fields, as alleged by the Examiner, only one detector would have been allocated to it.

In the device shown in Fig. 3C of the Saini document, there are, indeed, several optical detectors 70, 72 and 74 and several sensing chemistries 30A, 30B and 30C, but the device also defines different light paths, separated by beam splitters 71, 73 and 75. In each light path, the light emitted by the sensing chemistry only reaches one detector.

Moreover, the Examiner’s above-quoted allegation in the Response to Arguments section makes no sense. On the one hand, the Examiner argues that sensing arm 25 in Fig. 1C of the Saini document reads on the “multiple detection fields” and “each detection field including at least one receptor” of claim 17. On the other hand, the Examiner argues that the Saini document discloses that each of the multiple detection fields of sensing arm 25 includes at least one receptor. However, assuming *arguendo* that the sensing arm 25 of Fig. 1C of the Saini document discloses multiple detection fields, this figure only discloses a single detector 18, not multiple detectors - one for each detection field - as is required by the limitations of claim 17.

As can be seen, the Saini document does not disclose, teach or suggest an optical waveguide having all the limitations of claim 17. Accordingly, the Saini document cannot anticipate or render obvious claim 17, or claims 18-36 dependent therefrom.

The Budach et al. and Haronian et al. documents do not cure the foregoing deficiencies in the teachings of the Saini document.

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CONCLUSION

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of claims 17-36 are requested.

Respectfully submitted,

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